Applicant respectfully requests reconsideration of this application. Claims 1-30 are pending. Claims 1, 4, 5, 8, 11, 13, 16-18, 20, 21, 24, 25, and 28 have been amended. No claims have been added. Claims 2, 3, 7, 15, 19, 22, 23, and 27 have been cancelled.

Therefore, claims 1, 4-6, 8-14, 16-18, 20, 21, 24-26, and 28-30 are now presented for examination.

Objection to Disclosure

The Office Action indicates the following:

> Processes (4) through (10) on page 8 and 9 are incorrectly mentioned as part of Fig. 2 and Fig. 3. All of the drawings submitted with the application don't have Processes (4) through (10). Appropriate correction is required.

Applicant is not certain what portion of the description the Office Action is referring to. The disclosure does not indicate that processes (4) through (10) are contained in Figures 2 and 3. These described as part of Figure 3 only. There is a reference to processes (4) through (10) in paragraph 0031, but this indicates that these are "below", and such processes are in fact described below. Paragraph 0031 does not provide any indication that these processes are contained in Figure 2.

However, in order to respond to the objection, paragraph 0031 has been clarified to indicate that the processes are "contained in Figure 3 and described below". It is hoped that this is responsive to the objection. If not, the Applicant requests clarification of the objection.

Claim Objections

The Examiner objected to claims 3-5, 13, 18, 20 and 23-25 under 37 CFR 1.75 (c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant respectfully traverses the claim objections, which are not consistent with law. Of the rejected claims, claims 3 and 23 have been cancelled and are no longer relevant to this rejection.

The Office Action indicates the following:

> Claims 3-4 are dependent on claim 1 instead of claim 2, Claim 5 is dependent on claim 2 instead of claim 4, claim 13 is dependent on claim 11 instead of claim 12, Claim 18 is dependent on claim 16 instead of claim 17, claim 20 is dependent on claim 16 instead of claim 19, claims 23-24 are dependent on claim 21 instead of claim 22 and claim 25 is dependent on claim 22 instead of claim.

Applicant is unclear what this paragraph is meant to convey. The Office Action indicates that claims 3 and 4 "are dependent on claim 1 instead of claim 2". However, the claims, though now amended, were in fact dependent on claim 2. In addition to the filed application, the Applicant has examined the published application (US Patent Publication No. 2005/0086667, published April 21, 2005), and the published application also indicates that claims 3 and 4 were dependent on claim 2. The same appears to be true of each other of the cited claims. The Applicant requires clarification of the Office Action as to whether it is meant to indicate that the rejected claims <u>should</u> be dependent on the indicated claims.

Assuming that the objection is modified to indicate each of the rejected claims <u>should</u> be dependent on the claims indicated, the Applicant traverses the objection

because in each case the claim provides an additional limitation that is not present in the preceding claims to which the claims are dependent. This is in accordance with 37 CFR 1.75 (c), which provides that "[o]ne or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application."

If the Office Action is meant to indicate that a claim may be only dependent on a claim if it further limits the limitations in that particular claim, rather a claim further up in the chain of preceding claims, this is incorrect under the law. 37 CFR 1.75 (c) does not require this. For example, it is assumed that claim A is independent, claim B is dependent on claim A, and claim C is dependent on claim B. Claim C must add further limitations to one or more of the preceding claims (claims A and B in this example), but there is no legal requirement that the additional limitation be to element of the immediately preceding claim (claim B in this example) – the additional limitation may address limitations contained in claim A.

For example, the MPEP indicates:

> Note, that although 37 CFR 1.75(c) requires the dependent claim to further limit a preceding claim, this rule does not apply to product-by-process claims.
> Claims which are in improper dependent form for failing to further limit the subject matter of a previous claim should be objected to under 37 CFR 1.75(c) by using form paragraph 7.36.

(MPEP, §608.1(n)(II)) (emphasis added). Thus, the requirement is that there is a further limitation of "a preceding claim". This does not indicate that the further limitation must be to the immediately preceding claim. It is submitted that this could not be applied in practice. 37 CFR 1.75 (c) specifically provides that dependent claim may further limit

another claim or claims, and limiting multiple claims is only possible if limitation is not limited to an immediately preceding claim.

Thus, if the Applicant has correctly interpreted the objection, the objection is not proper and should be removed. If the above does not properly interpret the objection, the Applicant requests clarification of the objection.

Claim Rejection under 35 U.S.C. §101

The Examiner rejected claims 20, 21 and 28 under 35 U.S.C. 101 as being directed to non-statutory subject matter.

With any concession regarding the rejection, Claim 20 has been clarified as follows:

> 20. The system of claim 16, wherein each of the plurality of drivers is compatible with an Extensible Firmware Interface (EFI) specification.

The claim, as amended, does not include both a method and a system. The claim provides a further limitation in that the method is utilized in an interface pursuant to a defined protocol. As indicating in the Description, "EFI describes an interface between an operating system (OS) and platform firmware." In this regard, the Examiner is directed to the EFI specification, which is submitted herein as an information disclosure. To avoid providing excessive material, the submission is limited to parts 1 and 2 of the specification.

Claim 28 has been clarified in the same manner as claim 20, and it is submitted that such claim is allowable.

Without any concession regarding the substance of the rejection, claim 21 has been modified to be limited to a "computer-readable medium", which comprises a statutory device. With regard to the indication that this should be either a machine-readable medium claim or a method, is contrary to law. The medium is a device that contains instructions, and this has been found judicially to be patentable subject matter

It is submitted that the rejections have been addressed by amendment and argument, and the rejection should now be removed.

Claim Rejection under 35 U.S.C. §102

The Examiner rejected claims 1, 6-7, 9-11, 14-15, 21, 26-27, 29-30 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 4,847,755 of Morrison, et al. (*"Morrison"*). Of the rejected claims, claims 7, 15, and 27 are cancelled and are no longer relevant for this rejection.

It is submitted that, when the *Morrison* reference is examined, it is apparent that the reference is not relevant to the rejected claims. Claim 1, as amended herein, provides as follows.

1.   A method comprising:
          building a queue having one or more drivers for execution prior to
                booting an operating system; and
          executing the one or more drivers in the queue using a plurality of
                processors, the plurality of processors including a bootstrap
                processor and one or more application processors, wherein
                the execution of drivers by each of the plurality of
                processors includes:

determining whether there is a first driver of the one or
more drivers in the queue,

determining whether the first driver is ready for execution,
and

if the first driver is ready for execution, removing the first
driver from the queue and executing the first driver.

Thus, among other elements, the claim includes <u>one or more drivers for execution prior to booting an operating system</u>. Further, the claim provides for <u>building a queue of the one or more drivers</u>, and, if a driver is ready for execution, <u>removing the driver from the queue</u> and executing the driver. Among other differences, it is submitted that the *Morrison* does not include these elements.

Morrison regards parallel processing, and in such system provides for a computer containing a plurality of processor elements operating on a statically compiled program. In such a system, there is a plurality of "logical resource drivers". For example, multiple logical resource drivers (LRDs) 620 and multiple processor elements 640 are illustrated in Figure 6. The only use of the term "driver" in *Morrison* regards logical resource drivers. However, logical resource drivers are unusual elements used in the multiple processing element system of *Morrison*:

The logical resource drivers 620 are unique to the system
architecture 600 of the present invention. Each illustrated LRD provides
the data cache and instruction selection support for a single user (who is
assigned a context file) on a timeshared basis. The LRDs receive
execution sets from the various users wherein one or more execution sets
for a context are stored on an LRD. The instructions within the basic
blocks of the stored execution sets are stored in queues based on the
previously assigned logical processor number. For example, if the system

has 64 users and 8 LRDs, 8 users would share an individual LRD on a timeshared basis. The operating system determines which user is assigned to which LRD and for how long. The LRD is detailed at length subsequently.

(*Morrison*, col. 15, lines 45-59) Thus, these are drivers that provide support for a single user. The operating system determines which user is assigned to which LRD and for what time period. There is nothing in the reference to indicate that the multiple processing elements are executing a queue of drivers prior to booting an operating system. The discussion with regard to the logical resource drivers only regards the use of such drivers, as assigned by the operating system for single users, for the multiple processing elements. Similarly: "The operating system of the machine deals with those users assigned to the same LRD in a timeshared manner, thereby adding the temporal dimension to the sharing of the processors." (*Morrison*, col. 34, lines 30-32) If the operating system is assigning the logical resource drivers, then it is apparent that the operating system has been booted. There does not appear to be any discussion in *Morrison* regarding how the drivers may be executed prior to booting of the operating system to make such drivers available, and no suggestion that a plurality of processors are utilized as provided in claim 1. It is thus submitted that *Morrison* does not provide for a queue of drivers to be executed prior to the booting of an operating system.

It is further noted that *Morrison* does not provide for a queue of drivers. Rather, *Morrison* indicates that each logical resource driver includes queues, the queues containing execution sets. For example: "The LRDs receive execution sets from the various users wherein one or more execution sets for a context are stored on an LRD. The instructions within the basic blocks of the stored execution sets are stored in queues based

on the previously assigned logical processor number." (*Morrison*, col. 15, lines 49-54) (emphasis added) Also: "The instruction selection portion 1510 of the LRD has three major functions; instruction caching, <u>instruction queueing</u> and branch execution." (*Morrison*, col. 30, lines 16-18) (emphasis added) As *Morrison* does not provide for a queue of drivers, it also does not provide for removing a driver from the queue. As the Office Action indicates with regard to claim 7, the reference does mention a <u>pipeline</u>, but a pipeline regards the execution of a series of <u>instructions</u>, not drivers – the existence of a pipelined processor is not relevant to the execution of drivers in a queue.

For at least the reasons provided above, claim 1 is not anticipated by *Morrison*. It is submitted that that arguments provided above with regard to claim 1 also apply to independent claims 11, 16, and 21. The remaining rejected claims, while having other differences with the cited reference, are allowable as being dependent on the allowable base claims.

Claim Rejection under 35 U.S.C. §103

The Examiner rejected claims 2-3, 16, 19 and 22-23 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,847,755 of Morrison, et al. (*"Morrison"*) in further view of U.S. Patent 6,158,000 of Collins (*"Collins"*). Of the rejected claims, claims 2, 3, 22, and 23 are cancelled and are no longer relevant for this rejection.

The remaining rejected claims are dependent claims and are allowable as being dependent on the allowable base claims.

While *Collins* is cited for other purposes, it is submitted that *Collins* does not teach or suggest the elements shown above to be missing from the independent claims, and thus the claims cannot in combination show the elements of the claims. The

reference describes a multiprocessor computer system having a BIOS that allows parallel execution of system initialization tasks by at least two processors to reduce system boot-up time. However, the way in which the process works is that the bootstrap processor is configured to instruct the application processor to test and initialize memory locations in the shared memory module while the bootstrap processor proceeds with other system initialization tasks. After completing its tasks, the bootstrap processor determines whether the application processor has completed the memory test, and if so, the bootstrap processor proceeds to locate and execute an operating system. (See, for example, *Collins*, Summary) This does not related to the missing claims elements.

Thus, the combination of *Collins* and *Morrison* is not sufficient to show the elements of the claims.

Claim Rejection under 35 U.S.C. §103

The Examiner rejected claims 4, 8, 12, 24, and 28 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,847,755 of Morrison, et al. (*"Morrison"*) in further view of U.S. Patent Publication 2004/0088231 of Rothman (*"Rothman"*).

The rejected claims are dependent claims and are allowable as being dependent on the allowable base claims.

While *Rothman* is cited for other purposes, it is submitted that *Rothman* does not teach or suggest the elements shown above to be missing from the independent claims, and thus the claims cannot in combination show the elements of the claims. The reference describes configuring hardware resources in a pre-boot environment without requiring a system reset. This includes:

[0009] The present patent describes methods and an apparatus to configure individual hardware devices in a pre-boot environment and intelligently determine if a total system reset is required to activate one or more changes to the configuration. If a system reset is not required, the configuration changes may be activated with the use of a firmware interface such as an Extensible Firmware Interface (EFI) to stop a driver associated with a particular hardware device and restart it so that it re-initializes with the appropriate configuration changes.

(*Rothman*, ¶ 0009) Thus, the reference focuses on avoiding a system reset to activate changes to a configuration. If this is done, then the firmware interface may be used to stop a driver and restart it to reinitialize with the configuration changes. While this regards the starting of drivers in a pre-boot environment, this does not regard the building a queue having one or more drivers for execution prior to booting an operating system, or for executing the one or more drivers in the queue using a plurality of processors. Thus, the combination of *Rothman* and *Morrison* are not sufficient to show the elements of the claims.

Claim Rejection under 35 U.S.C. §103

The Examiner rejected claims 5, 13, 17, 18, 20, and 25 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,847,755 of Morrison, et al. (*"Morrison"*) in view of U.S. Patent 6,158,000 of Collins (*"Collins"*) and in further view of U.S. Patent Publication 2004/0088231 of Rothman (*"Rothman"*).

The rejected claims are dependent claims and are allowable as being dependent on the allowable base claims.

The cited references are addressed above. It is submitted that none of the cited references includes the elements shown to missing, and thus the references, in any combination, are insufficient to show such claim elements.

Conclusion

Applicant respectfully submits that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (503) 439-8778 if there remains any issue with allowance of the case.

Request for an Extension of Time

The Applicant respectfully petitions for a one-month extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a). Please charge our Deposit Account No. 02-2666 for the required fee under 37 C.F.R. § 1.17.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: __October 22, 2007__   ___/Mark C. Van Ness/_____
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